Conference Report on *Música Analítica 2023*. Interdisciplinary Approaches to Musical Time

José Oliveira Martins

Abstract

Música Analítica 2023, held at the University of Coimbra, brought together an international and interdisciplinary community to examine musical time as a multifaceted analytical, perceptual, and cultural phenomenon. Across keynotes, plenaries, and twelve thematic sessions, scholars from music theory, cognitive science, ethnomusicology, performance, philosophy, and related fields explored how time is structured, experienced, and conceptualized in diverse musical practices. Discussions ranged from microtiming, polyrhythm, and temporal cognition to historical, cross-cultural, and technological perspectives. Serving as a conceptual precursor to the ERA Chair project MusicAnalytica, the conference articulated a forward-looking framework for musical time as a transdisciplinary research nexus.

Keywords: analytical approaches; cross-cultural perspectives; interdisciplinary research; musical time; rhythm and meter.

Résumé

Le colloque *Música Analítica 2023*, tenu à l'Université de Coimbra, a réuni une communauté internationale et interdisciplinaire afin d'examiner le temps musical en tant que phénomène analytique, perceptif et culturel aux multiples dimensions. À travers des conférences plénières, des sessions thématiques et douze ateliers, des chercheurs en théorie musicale, sciences cognitives, ethnomusicologie, interprétation, philosophie et disciplines apparentées ont exploré la manière dont le temps est structuré, vécu et conceptualisé dans diverses pratiques musicales. Les discussions ont porté sur des sujets allant du *microtiming*, de la polyrythmie et de la cognition temporelle aux perspectives historiques, interculturelles et technologiques. Servant de précurseur conceptuel au projet ERA Chair MusicAnalytica, ce colloque a permis de formuler un cadre prospectif pour l'étude du temps musical en tant que nexus de recherche transdisciplinaire.

Mots clés : approches analytiques ; perspectives interculturelles ; recherche interdisciplinaire ; rythme et métrique ; temps musical.

Held from October 12-14, 2023 at the University of Coimbra, Portugal, the second edition of the *Música Analítica* international conference provided a forum for cutting-edge research on musical time. Organized by the Centre for Interdisciplinary Studies (CEIS20), in partnership with the Faculty of Arts and Humanities, and co-chaired by myself and Richard Cohn (Yale University), the event convened a diverse international community of scholars and practitioners from music theory, cognitive science, ethnomusicology, philosophy, performance, and digital humanities. It aimed to challenge and refine how musical time is conceived, enacted, experienced, and theorized—across styles, historical periods, and disciplines.

The Programme Committee of *Música Analítica 2023*, composed of scholars representing diverse areas of expertise, was instrumental in curating a thematically coherent and intellectually expansive event. The committee was co-chaired by myself (Centre for Interdisciplinary Studies, University of Coimbra) and Richard Cohn (Yale University), whose respective expertise in musical temporality, analysis, and interdisciplinary epistemology anchored the conference's conceptual direction. Committee members included Ana Llorens (Universidad Complutense de Madrid), a specialist in performance studies and corpus-based analytical methods; Daniel Moreira (CEIS20, University of Coimbra and Porto Polytechnic), a composer and theorist whose work bridges temporality and media aesthetics; Philippa Ovenden (Pontifical Institute of Mediaeval Studies), an authority on medieval diagrammatic thinking and historical temporalities; Rainer Polak (University of Oslo), an ethnomusicologist known for his fieldwork on rhythm and embodied entrainment in West African traditions; and Tomas Lenc (Université Catholique de Louvain), a cognitive neuroscientist whose research focuses on neural responses to rhythm and predictive timing. The committee was ably supported by the broader Scientific Board of fifty-seven international scholars who provided peer-review, thematic guidance, and invaluable feedback throughout the selection process.

This edition gathered over seventy presenters from twenty-one countries across five continents. Contributors represented more than forty academic and artistic institutions, with particularly strong participation from European centres (Lisbon, Oslo, Paris, Cambridge, Ghent, Basel, Helsinki), North America (New Haven, Toronto, Bloomington), and Latin America (São Paulo, Montevideo). Disciplines ranged from historical and systematic musicology to mathematics, psychology, philology, and embodied performance studies. Approximately one third of presenters were affiliated with interdisciplinary research centres, reflecting the conference's broader aspiration to build bridges between established and emerging research cultures.

The "Keynote Lectures" captured this interdisciplinary ambition. José Luis Besada (Universidad Complutense de Madrid) opened with a presentation on how composers' sketches encode temporal cognition, particularly in the work of Xenakis, Saariaho, Grisey, Boulez, and Posadas. Drawing from cognitive science and semiotics, Besada proposed that these documents are not merely notational devices but cognitive artefacts that reveal how compositional time is spatialized, structured, and conceptualized.

The second keynote, delivered by Nori Jacoby (Max Planck Institute for Empirical Aesthetics), examined the perceptual priors in rhythm processing across cultural

contexts. Jacoby repeated reproduction experiments conducted in fifteen countries, which revealed that listeners gravitate toward rhythms built on small integer ratios. This points to universal cognitive constraints, while also highlighting some striking cultural differences. Jacoby's model positioned musical rhythm as a space where neurocognitive structure and cultural transmission intersect.

The final keynote by Tosca Lynch (University of St Andrews / eMousikē) took us into antiquity, reconstructing the concept of *rhuthmós* in ancient Greek thought. Through close readings of Aristoxenus, Plato, and other classical sources, Lynch demonstrated how rhythm was conceived as a dynamic pattern of movement integrating voice, gesture, and ethics. Her performative reconstructions bridged philology and embodied practice, showing how temporality in ancient Greek music diverges radically from metric paradigms.

Three plenary sessions were designed to facilitate cross-disciplinary synthesis; the first two, moderated by the author of this report, were titled "Avenues of Research on Musical Time." The opening plenary session featured Richard Cohn (Yale University), Anne Danielsen (University of Oslo), Dean Rickles (University of Sydney), and Benedict Taylor (University of Edinburgh). Cohn reflected on transformational and geometrical approaches to rhythm and harmony, proposing analytical models that foreground musical time as a richly structured space. Danielsen explored groove and microtiming, focusing on how rhythmic perception is shaped by cultural context and embodied experience. Rickles introduced philosophical and scientific perspectives on temporality drawn from theoretical physics, including entropy and the directionality of time. Taylor, from a historical-musicological perspective, addressed aesthetic constructions of temporal flow and irreversibility in 19th-century music. Together, the session's contributors brought music theory, performance studies, physics, and historical analysis into productive dialogue, illustrating the multiple axes along which musical time can be investigated.

The second plenary session brought together Jessica Grahn (Western University), Michelle Phillips (Royal Northern College of Music), and Martin Clayton (Durham University). Grahn presented empirical findings on the neural mechanisms of beat perception and motor entrainment, offering insights into how rhythmic processing is distributed across the brain. Phillips discussed the psychological dimensions of time perception in music, particularly in relation to expressivity, expectation, and the temporal structuring of listener experience. Clayton focused on intercultural entrainment, drawing from ethnographic work to illustrate how musical coordination functions differently across cultures. This session emphasized perceptual and cognitive approaches, grounded in experimental and ethnographic methods, and underscored the relevance of empirical work in advancing analytical and theoretical frameworks for musical temporality.

The third plenary, the valedictory session, took place on the final day and functioned as a collective reflection on the conference and its emerging community. Moderated by Richard Cohn, this session featured contributions from multiple plenary speakers and delegates. The discussion addressed infrastructural needs, epistemic risk-taking, and the prospect of forming a sustainable international network around the study of musical time. Themes included methodological pluralism, research funding environ-

ments, and the cultivation of intellectual spaces that welcome speculative thinking alongside empirical rigor. The session functioned not merely as a conclusion but as a prelude to future collaborations.

Twelve regular sessions formed the backbone of the programme. Each panel was curated around a thematic concern and showcased work by early-career and established scholars. The session on "Irreversibility and Process" examined temporal asymmetry and formal directionality. António Grande (G. Verdi Conservatory of Music) reflected on temporal strategies in 19th-century opera. José Beato (University of Coimbra) proposed a metaphysical reading of irreversible musical forms. Barak Schossberger and Yoel Greenberg (Hebrew University) analyzed processual structures in modernist repertoire using temporal logic and transformational theory.

"Empirical Approaches" addressed time through data and cognition. Laurel Trainor (McMaster University) explored rhythm perception in infants. Lígia Silva (University of Coimbra) correlated musical sophistication with timing accuracy. Tomas Lenc (Université Catholique de Louvain) used EEG to measure beat processing under different rhythmic conditions. The session "Repetition and Variation" tackled cyclical and evolving temporalities. Katherine Walker (Hobart and William Smith Colleges) examined repetition in Byrd's keyboard works. Tian-Yan Feng (University of Edinburgh) analyzed variation technique in contemporary Chinese music. Anne Hyland[1] (University of Manchester) argued for aspects of progressivization in Schubert's early music. Daniel Moreira (University of Coimbra) mapped musical repetition onto audiovisual form.

The session "Polyrhythm and Syncopation" explored metrical tension. Nicole Biamonte (McGill University) addressed syncopation in rock. Ève Poudrier (University of British Columbia) presented empirical research on polyrhythmic perception. Scott Murphy (University of Kansas) studied competing metric frameworks in late Romantic music. In "Free Rhythm and Microtiming," presenters investigated time beyond strict meter. Nariá Ribeiro (NOVA University Lisbon) analyzed tempo rubato in *fado*. Juliano Abramovay (Durham University and Codarts—University for the Arts) theorized free rhythm in *taksim* improvisation. Martin Clayton and Sayumi Kamata (Durham University) documented flexible timing in performance. Filippo Bonini Baraldi (NOVA University Lisbon) explored microtiming in Romani violin traditions.

"Musical, Historical and Mythological Time" brought conceptual depth. Leonor Losa (University of Coimbra) offered an ethnographic analysis of time in *fado*. Catello Gallotti (Conservatorio di Salerno) explored narrative time in Schumann. Nicholas Phillips (Oxford Brookes University) proposed ecological time as an interpretive lens. Konstantin Zenkin (Tchaikovsky Moscow Conservatory) examined mythic temporality in Russian modernism. The session "Tempo and Small Gestures" focused on localized time-shaping. David Code (Western Michigan University)

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analyzed tempo and poetic metre in Debussy. Nuno Trocado (University of Coimbra) examined jazz phrasing and expressive microtiming. Benjamin Lee and Guerino Mazzola (University of Minnesota) introduced spline-based models of *rubato*.

"Music and Poetry" addressed intersections of musical and verbal temporality. Jacob Reed (University of Chicago) reflected on musical readings of poetic time. Filipe Rocha, Pauxy Gentil-Nunes and Liduino Pitombeira (Federal University of Rio de Janeiro) explored prosody in Brazilian song. Marina Mezzina (Royal Northern College of Music) focused on vocal silence and pause. Eshantha Peiris (University of British Columbia) discussed time in Sri Lankan devotional performance. In "Multi-temporality, Complexity and Paradox," time was non-linear. Elena Rovenko (University of Strasbourg) presented analyses of musical palindromes. Nathan Martin (University of Michigan) revisited Enlightenment theories of time. Georgina Born[2] (University College London) critiqued genre-based temporal ideologies.

The session titled "Performance" considered embodied time. Dalila Teixeira (University of Coimbra) discussed entrainment and bodily negotiation. Carlota Martínez Escamilla (Universidad Complutense de Madrid) traced tempo curves in Bach interpretations. Erica Bisesi and Sylvain Caron (Université de Montreal) reported on perceptual studies of expressive tempo shifts. "Cross-parameter, Cross-dimensional, Cross-modal Time" addressed hybridity. Vasilis Kallis (University of Nicosia) studied interaction between rhythm and harmony. Marc Vidal and Nádia Moura (Ghent University) linked sonification and perception. Jason Yust (Boston University) theorized complex temporal geometries. Finally, the session on "Cognition" presented integrative models. Riccardo D. Wanke (NOVA University Lisbon) analyzed time perception in sound art. Rainer Polak (University of Oslo) reported on motor entrainment in Malian music. Juan Chattah (University of Miami) proposed a metaphor theory of musical time.

The interdisciplinary confluence brought about by *Música Analítica 2023* has laid the intellectual and organizational groundwork for the ERA Chair project MusicAnalytica (2025–2030), a central institutional ambition of the University of Coimbra. Funded by the European Commission, and under the leadership of Richard Cohn as ERA Chair holder, the project will establish a Cluster of Excellence for Music Theory as an Interdiscipline in Coimbra. The conference served as both a conceptual pilot and a community-building exercise, demonstrating the viability of a long-term research agenda centred on musical time as a transdisciplinary nexus.

In conclusion, *Música Analítica 2023* was not only a gathering of specialists but a deliberate act of community formation. By centering musical time as a mediating concept between disciplines, the conference proposed a model of research that is both rigorous and porous, precise yet open-ended. If there is such a thing as a future of music analysis, it may well play out in this key: time, made plural, thought together.

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